



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

DEC - 8 2009

OFFICE OF  
AIR AND RADIATION

Krystallon, Plc  
% Jim Kross  
Bluefield Holdings, Inc.  
2505 Second Ave. Suite 602  
Seattle, WA 98121

Dear Mr. Kross:

The U.S. Environmental Protection Agency (EPA) has reviewed your request for placement of Krystallon's PM Seawater Scrubber system on the National Clean Diesel Campaign's Emerging Technologies List. Based on our evaluation of the application and the test plan, EPA has determined Krystallon's PM Seawater Scrubber system meets the requirements of the Diesel Emission Reduction Program Provisions under the Energy Policy Act of 2005 to qualify as an emerging technology. Effective from the date of this letter, Krystallon's PM Seawater Scrubber system will qualify as an emerging technology for one year with a possible extension of an additional year. For more information on the general requirements of an emerging technology, please see Attachment A.

Based on EPA's review of the information and data provided, your technology is approved for use in Emerging Technology applications on the following categories of engines and/or vehicles provided all of the required operating criteria are met as described below:

Marine vessels with diesel engines and a combined total power not to exceed 2500 horsepower.

The projected emission reduction levels for this technology based on the information and data provided by the manufacturer are listed in the table below. The assigned emission levels may be adjusted after the technology is tested for verification based on the results.

Technology	Particulate Matter (PM) %	Carbon Monoxide (CO) %	Hydrocarbons (HC) %	Oxide of Nitrogen (NOx) %
Krystallon PM Seawater Scrubber	50	0	50	0

The following operating criteria must be met in order for appropriately retrofitted engines to achieve the aforementioned emission reductions.

- 1) Must be operated on ULSD fuel (15 ppm).
- 2) Krystallon will review vessel operating conditions, installation requirements and engine condition prior to installation.
- 3) The engine should be well maintained and not consume lubricating oil at a rate greater than that specified by the engine manufacturer.
- 4) Each installation will be equipped with an on-board monitoring system for engine exhaust and washwater discharge as specified in the test plan.
- 5) Release or disposal of all liquid, sludge and solid waste must be in compliance with International, Federal, State and Local laws.

The primary goal of the Emerging Technology program is to support early deployment of new technologies that will reduce diesel emissions from the existing fleet. This program provides an opportunity for manufacturers to obtain feedback from fleet partners on their technology while it is in-use. In addition, EPA expects Krystallon to pursue full EPA verification during the time frame their technology is on the Emerging Technology List. To ensure progress is occurring, Krystallon must submit quarterly updates detailing the steps taken towards verification.

All devices sold as an Emerging Technology must be manufactured and installed as described to EPA in the verification process. Any updates/changes to the technology must be described in advance or concurrently with reporting to EPA. Devices that are not in all material respects as described to EPA may not qualify for NCDC funding.

Thank you for participating in EPA's National Clean Diesel Campaign. If you have any questions or comments, please contact Arman Tanman, of my staff, at (202) 343-9326.

Sincerely,



Jim Blubaugh, Manager  
Innovative Strategies Group  
Office of Transportation and Air Quality



## Attachment A

The following criterion outlines the general requirements for technologies included on EPA's National Clean Diesel Campaign's Emerging Technologies List:

- The amount of time a technology may remain on the Emerging Technology List is 1 year.
- If a technology is fully verified within the first year, the technology will be added to the EPA Verified Technology List.
- A manufacturer may request an extension of up to one year to remain on the Emerging Technology List provided that the manufacturer has demonstrated to EPA it is pursuing full verification.
- If after the first year the technology has not been verified, EPA will review the status of the technology and determine if the technology qualifies for a second year. (Note: If it appears that the manufacturer has not made a significant attempt to complete verification and testing, the technology may NOT qualify for the second year).
- Once a technology is selected for use in an Emerging Technology project, that technology may be used for the entire project period even if the technology has been fully verified by EPA.
- Because an Emerging Technology is in the verification process, EPA may continue to evaluate the product, operation, its impacts on emissions and the test plan. At EPA's discretion, related to the National Clean Diesel Campaign, EPA may impose restrictions and/or revisions to the operating criteria, scope of coverage and test plan.
- Should EPA determine an Emerging Technology was misrepresented in the application, performance was not fully described, or because of concerns for safety and/or public health, at EPA's discretion, EPA may remove a technology from the Emerging Technology List, revise operating criteria, or impose other restrictions for use in Emerging Technology grant programs.
- Should a technology be removed from the Emerging Technology List without receiving verification status, that technology is no longer eligible for use on any Clean Diesel grant programs.
- The manufacturer or an authorized representative must install the technology as described to EPA and in accordance with the criteria described in the approval letter.
- Upon request, manufacturers must provide information to EPA on the installation, operation, and performance of Emerging Technologies used in Clean Diesel Grant programs.